EEP100 Lecture 18 (Oct 29, 2009)

David Zetland

So let's get started. For a second I want to…yes you…the students…I'm talking to you.

I have been asked to compare…Jeff Perloff, professor at large, has asked me to show you these two figures. Here's one figure. Does anybody ever know what this figure shows?

Utility.

Utility and? What else? What is the other one? What is it showing?

Indifference curves?

Indifference curves and utility function. So the first question is…which one do you like more. This one or that one? Let's do a vote. This one? Everybody has to vote. Or that one?

I would say that would be a minority.

It's the indifference curve between two goods, essentially. And this is actually a useful concept. Actually, it's pretty bloody obvious when you think about it, but the whole idea is that you've got zero consumption down here of either good. And as you increase the consumption of Q1 or the consumption of Q2, you're getting more utility, which is actually this three-dimensional idea. So the X, Y, Z. This third axis here. You guys can see that, right? So you start off with zero utility down here, and as you consume more of each of these goods, not reaching satiation, you're going to get more utility, and the indifference curves are on the surface of that three dimensional surface. They're just showing you the tradeoff at a given level of utility.

So utility starts at zero and it goes up, but it goes up in a shape, which is going to be, essentially, following the shape of the indifference curve. So this is the projection down. This indifference curve is at a certain utility at a height here, and it projects down onto the actually surface (The floor) showing the tradeoff between the two goods, maintaining utility. It's an iso-utility curve. Does that make sense? Yeah?

It's meant to demonstrate the concept of utility increasing, and the concept of trading between those goods as you move back and forth from utility on the indifference curve.

And then so then the other question Professor Perloff asked is…is this figure, for example here, helpful, or would you prefer to have just a discussion of what utility is…and an indifference curve only on a blackboard?

Who likes the blackboard and discussion idea? And I don't mean complete [inaudible]…but who likes this figure more than a blackboard idea?

So that would be a no.

And then…would you prefer to see both figures or one figures?

If you have to look at them, or you're forced to by me…

Is that an aerial view?

It's an aerial…the helicopter view. Well this one, the axis…this has been rotated. So now you've got your second good goes up here and up there, And then this indifference curve… because the surface is still increasing as you're going up, and it's just been rotated around. And here's the indifference curve on the utility mound…the mound of happiness (which has all kinds of third party connotations). And then you have the projection downwards from utility piles. So it's the mound down to the flats.

Does it help to see both, or do you want to only see one? And you chose this one, by the way. Do you want to see one or do you want to see two? Two? One? Ooh…close.

Okay, we'll go for two. Almost a split decision. And now, we'll get rid of all of that.

All right. So...thank you advancing the cause of…Professor Purloff has authored textbooks, so I'm assuming you just inflicted your opinions on the next students that will be buying that textbook. Congratulations.

Let's do some logistical stuff.

What's on our menu today? Auctions.

I'm going to pass these books around, so that those of you who want to inspect the merchandise will have the opportunity to.

I'll just randomly pass them…let's not do random. Let's do two form this side, and they'll follow. Those two should just stay with each other and follow some kind of pattern. So these are going that way, and these are going this way. So pass it back and forth along the rows. And my margin notes will not be getting you Nobel Prizes.

And we'll be doing the auction as number 4 today. I hope you guys broke open your piggy banks. I also will be…I promised that I would send you price information on Amazon, which I failed to you, but I printed them out, and I will reveal that information to you before we run the auctions.

I have office hours today. That appears to be one logistical question. That's at 3:30.

Also, Sabina sent me a very good e-mail worthy of a bonus point, which I'm awarding to her.

That's not the point…

I know that's not the point. But I get to award points when I want to. I am the federal reserve of grade points. I get to award them. So what she said is…in simplest form is…Hey, the briefing grading structure, in which you have to rank (if you're grading). Everybody has three papers to work with. They get to rank them gold, silver, bronze.

And that creates what's called determinant competition. Only a winner in each ranking. There's going to be a winner, and there's going to be a second place, and there's going to be a loser.

And so she said…but wait a second. Doesn't that mean that students are going to see this more as a zero-sum game, which it is? If you're grading one person as a gold, you cannot have three

gold medals for grading somebody, for example. And is that can be true. That's actually…let's see here…it could create a bad atmosphere in the class. And that can be true. And that's actually the whole idea of curve grading. And I thought about this when I sat down with the grades in this class, as you guys know. And several people have asked me…are you going to curve things or whatever. The problem, really, with curve grading, or the way that some people interpret it is, if we all get an 80% do we all get B minuses, or are you going to curve it up so we all get A minuses. That's one interpretation.

The other interpretation of curve grading is that you're going to have a certain distribution of grades…the midterm grades were similar to a normal distribution. And the idea of curve grading is, well, let's just give this percentage As and this percentage Fs as a rigid set of proportional grades. And even if you get a 65%, if you are the lower half of that lower part of the class, you would get an F I f I had applied a rigid curve. And maybe if you get over an 80, if that is what this cutoff is, you would get an A if I had applied a rigid curve. It is very easy to sit there and say ahead of time, because I'm applying this curve, I do know that 10 percent of you or 15 percent of you…I think the proportions are usually…B, C, D, F… 15, 15, 20. 20 (that's 70) 30. Something like that. I could do that if I wanted to, guaranteeing that 15% of you would fail this class, which would make a lot of you very upset, including guaranteeing that only 15% of you would get As, which would also make a lot of you upset. Because we're all A students, right? So I haven't decided to set this down. In fact, I'm not going to do it. Just so you know. But thing is that no matter what you do in terms of a curve…no…if you do anything related to curve, what that means is that if you get more points than your neighbor, you're going to get a higher grade than your neighbor. Now that is obvious. In a sense, competition, in that sense, which is what you're bringing up, okay?

Making it explicit, as in gold, silver, bronze, or however you want to call it, is only making obvious what is true. The other way to do it, of course…I would call it the kindergarten method, is everybody gets an A for what? Effort. This is auction week for David, and I'm auctioning stuff on eBay. Some guy set me an e-mail, and we're auctioning off some old watches, and he said, "Hey, I just bid a 99 cents for your watch. Can we do a "Buy it Now" so I can just buy it. Because I don't want anybody else to bid for that watch. I want it a lot."

And I wrote back, so I said…I wonder how much this watch is worth because I just put it up there…because I'm like…the market will decide. The last time one of these watches sold, it sold for $100. And before I looked it up, I was like, "Eh, it's probably worth $20. Maybe I'll sell it to him for 15 on "Buy it Now". But then, I was like…wait a second…so instead of putting it up for "Buy it Now", I wrote back to him and I said, "Sorry, no can do," and I put a note on my auction and said "by the way the last one of these sold for $100. Just keep that in mind. That, in auction terminology, is creating a reference point. Or you create a focal point, in more broad terminology. As far as I'm concerned, of course I want to tell people, "Oh, it's worth a lot". So what I'm getting at with this guy complaining…he actually wrote back and said, "Well, you know…I just lost my job. And I really want this watch." And it's like…whoa…you just lost your job and you're buying shit on eBay? What are you doing?

"And I can only afford this much." And I looked at another website this morning, because someone linked to it called something like karma net. And the idea is that you put up something that you want, and then when someone gives it to you, in terms of a trade, then you get to ask for something. So it's kind of a pay it forward, or good karma, and I was looking, I clicked on the

United States and like Wichita, Kansas, and someone was like, "I can't pay my utility bills. Can someone pay my utility bills?" And it's just weird. That doesn't seem to be exactly what's going on with karma. It's like, "Hey you know what? I'm not making enough money. Can you give me 20 grand?" That's a weird kind of karma, but that's apparently what some people are thinking of.

And as far as your grades are concerned, or as far as your student fees are concerned…can we please pay nothing? Or can you please give us all As? Well that's fine. But as Sabina well pointed out, the world is much more competitive than that. And after you leave kindergarten, you don't get an A for effort. When you go to an auction, if you have more money, you win. If you're applying for a job, if you're a better candidate, you win. If you write a better briefing that whoever else you're competing with (because of this randomization) you win.

And if somebody gives you a bronze, or whatever you want to call it, on your scores, because you could have three scores, if you get a 15, which is the lowest you can get (because it's a gold, silver bronze…the point scores are 10, 7, 5). I actually thought of lowering this to three, but that might be more cruel. But if you get 15, I think that's a message. Don't go into the briefing business, or work harder. What I want you to do on this stuff is work hard. It doesn't mean you're a bad person, it's just about school and learning. And learning is about working. So that is my tutorial as to why I'm doing this grading method. I am not going to change it. There is going to be this ranked grading. And also remember, by the way, the people that are handing in these grades, for every grader that you give as a grader, you are actually going to be getting a written comment that I will be grading according to my randomized procedure of…I think this is good or bad. And maybe everybody's going to get an A for effort on that. I don't know. Diana and Fei and I are going to grade those. So if you give somebody a 5, you say…and this is your comment to them, you are going to get a zero from me. So when you grade other peoples' stuff, and then you should know that you should be putting good effort into justifying why you are giving them that rank. And just saying, "This is worse than the one I read," is not fair. You have to give them a careful analysis about why you gave them that third place out of the three that you read.

With the grading system, though, feasibly, you could go up against 8 other really good writers, and somebody else can go up against 8 other really bad writers.

No, no, it's only 2.

Well because like 2 and then…oh sorry, I thought three different people are…

You're…one paper, it's going to be 3 copies, to 3 different people, and so you're going to have 3 copies going to Mr. A, Mr. B, and Mr. C.

Don't they each have three papers though? Or are the each just grading yours?

Oh, I see what you're saying, yeah.

You're competing against 6 people so…feasibly you can go against 6 great writers, and somebody else can go up against 6 really poor writers, and they could get a 30 and you could get a 15.

Right, but the whole point of randomization is that it's unlikely to happen, isn't it?

Yeah, that's true.

So if you think that you're the unluckiest person in the world, then it would happen to you. But that means all these other people are going to be fine. So thank you. Another question?

Do you just average out the score that you get?

Yeah. If you get 10, 10, 10, we're just going to take the average. So you're going to get 30. And if you get one of each because of some interesting combination, then you get 22 divided by 3. Yeah, you'll get the average.

Wait, so this out of 30 points, or out of 10?

No, it's out of ten. So you're just going to get…I just said to assign it this way because I was being a little bit sloppy, but it will be the average of the three scores you get.

Including your grading of our comments, what is briefing one out of total?

Briefing one is worth ten. The comments on briefing one is worth 5. They'll be separate grades. On the syllabus I said your briefing one is worth 10, the peer grading on briefing one is worth 5. Briefing two is worth 5. The peer grading on briefing two is…so 30 points is your total grade on these two briefings.

What is the standard that we're judging it by?

Which one is better.

I mean like…what specifically are we looking for?

Which one is better. It's your objective judgment. You're the politician in the elevator deciding if you like it using your analytical powers to decide.

But you just said that we couldn't write on it…"Well, one and two are better than yours, and that's why you got three.

You can say that, but you must give a longer explanation than "just because". Right?

Any other questions?

So if you get a bronze, you fail?

If you don't hand in anything, it's a fail.

But I mean…5 out of 10 is a fail.

According to this thing, yes. I don't know where the cutoff is going to be for "fail" for in this class. I will make sure that if somebody fails this class, they deserve it. And I will warn them ahead of time, as I … "come and see me now". I might have to look at grades right now, but I haven't looked at the distribution of grades. Somebody asked me, they were very nervous, "Oh,

I just did the midterm…we've only assigned 35 of the points out of this class so far. And the blog, essentially, is like a gimme. Anyways, we'll see how it goes. You can keep…

If you're nervous about grades…I don't know…you're students. I've…after awhile you just give up and work hard.

Any other questions?

I just had a question about the brief…like the topic…how do you define a special interest group?

You go to Wikipedia and you read about it. It's essentially…that's when you read *The Logic of Collective Action.* You know all about what that means.

Do we need to define that in the briefing?

No. In the briefing I said no jargon. And you can't abbreviate it. SIG. Just to fit in on the page. You can abbreviate whatever you want to fit on the page, but remember, it's got to be fluid. It's got to be as good as an editorial in the *San Francisco Chronicle* or *The Wall Street Journal* or *The Economist.* I want good writing; and I want good writing because you as readers want good writing. So that's what I'm telling you. Let's leave this behind and move right along. Last question.

I'm confused about what the jargon would be like. If you just said cost and benefit, would that be considered jargon.

I mean…if you say money, that's not jargon. If you say it's a moral hazard situation, that's jargon, right? What the hell does moral hazard mean? No one knows. I don't even know.

So, sorry you have to work. Life sucks sometimes.

So let me make a little excursion on what I call Scientific Method. I got an e-mail from one of my loyal readers of the blog:

"It seems that many of your students (this is about your blog posts) are starting from a conclusion and then trying to find facts that support that conclusion. I would hope that you are teaching them to start with facts and then the conclusions come of their own account."

Difficult question. Because the blogposts…I said to write something that you care about. But he has a good point, which is that at some point you have to worry about…am I just trying to justify my opinion, am I trying to rationalize my opinion? Or am I actually trying to find (as Schumpeter was very famous for doing, which is why I read his biography)…am I trying to find reasons why my argument is wrong?" And then examine each of those reasons or objections and make sure that I address them. You can't just say, "And some people might disagree with this, and they are stupid." Right?

You cannot use adhomonym logic to defend your position.

So let me explain…last class I mentioned this notion of falsification, and I said I don't know what the guy's name is. It's Karl Popper, who has one of the best names ever; I should've remembered it. And Karl Popper basically said, "Look, it's not science if you can't falsify it." If

you have a theory, and it cannot be falsified, then you are not talking about a scientific theory. You're just talking about an opinion.

It's a very simple idea, all right? I just stole this from the Wikipedia on this topic. All men are mortal. Can you falsify that? Technically not. Why can't you falsify that?

Did you say no?

Because you can't prove that someone's immortal.

You can't prove that someone is immortal.

It's kind of like a statement; it's not really…

It is a statement. But let me compare it with this one: All men are immortal.

There's no way to really test that.

This one or this one?

Either one of them. Well I guess mortal…you could say people die, but…

Can you falsify this? Yes. You can watch somebody die. Well, you don't shoot them. You could shoot the, actually, right? That would be the scientific method for Schwarzenegger, right? You are dead. Right? So Schwarzenegger would get his PhD in this one. How would he do this one?

Try and kill everyone.

Try and kill everyone. No! No! You've got to find…it's hard to find a person who's immortal. The worst problem of all is that whenever you come along as a scientist, there's some kid that just got born who you're never going to outlive, right? You can never prove that all men are immortal. You can never prove that all men are immortal. Sorry. You can never falsify it. That's what I mean. How can you falsify this?

You can never prove that all men are immortal?

Mortal. How can you falsify this expression? You can't. Obviously we don't believe it, but we don't know. There could be some guys up in the hills, in the Himalayas, who's immortal. The whole vampire thing right? There's some vampire out there besides in the movies. Yeah?

But even if you find someone that's been alive for like 200 years, it doesn't prove that they're immortal. They could die the next day.

That's right. But you can't falsify that they're immortal, because you don't know that they're going to die the next day. Unless you kill them, but you killed them then, right?

It's like God. You can never prove that God is there.

Right. The whole God exists or God doesn't exist. Or God is dead, or whatever. What was that joke…so and so says, "God is dead." And who is that philosopher who said that…Nietzsche. And then Nietzsche died, and God was like, "Ha Ha." Right?

But this cannot be falsified. Bad. Good. This is falsifiable. This is scientific, this is not scientific. This is what I was trying to tell you without having a really nice example. So this gets us to this question, a very important question on scientific method on the difference between deductive and inductive reasoning. What does deductive reasoning mean?

Where you start with an assumption, and you kind of work your way down to finding if it's false?

So you go from, essentially, general down to predictions. And those predictions should be falsifiable, right?

What does inductive reasoning mean?

You look from the end, and then you go backwards?

What does that mean…the end and you go backwards?

You look at the results, and you try figure out where it started.

So you look at…let's call it facts. And then you try and get a theory from the facts. You try and generalize.

So in economics, a lot of economics is done in this way. This is why…if you do have an economics textbook, and you might open it up, and they talk about consumer theory, and they say, "Let us begin at the start. We say that consumers have preferences. And the preferences are…we say that they must be transitive, and they must be commutative," and from these assumptions we get these implications. And these implications are, for example, that consumers will always prefer more. Consumers will…no sorry, I don't know if that's an implication. But they build that up (they, essentially the mathematical economists, of which I am not one) into a theory of consumer choice, or how consumers are going to behave or interact. And they say, "And now, we can go and test these things out." What I have been pointing out is that sometimes these predictions are very mathematically true, but they are actually false in terms of what we see in the experiments. That kind of thing on the trust game, okay? So, this is a dominant paradigm in economic methods, whereas this…this is the kind of thing that I say which is, or you guys are doing your blogposts, which is…why is that it costs more to park in Berkeley than it does in… whatever…Walnut Creek. You just ask yourself a question, and then you try and come up with a plausible explanation.

Robert Frank's book is full of those plausible explanations. The on that a lot of people don't like is they…why is milk shipped in a square container, and soda in a round container? You guys remember that in the book? Do you remember the explanation? Or did you agree with the explanation. I don't remember what it was. Was it the stacking? It was space, right? The squares conserve thermal inertia in the refrigerator. But what's the more obvious reason? Physics people. Why is soda in a 2-liter bottle that's round, and milk in a square container?

Because it's pressurized?

Because it's pressurized. We don't have pressurized milk containers. A square container won't hold pressure, right? That's why the egg is one of these amazing little things. This little pressure vessel, right? I think people build things on egg shells. Like…you can walk across them because they are so…the structure is so strong in terms of resisting crushing.

So going from facts to generalizations, true or not, you want to make them falsifiable. You can do that. They're both valid scientific methods. You just have to realize that one is one way of doing things, and one is another way of doing things. So this is…I just wanted to make that comment.

So for example Olson's theory would be inductive right? Because…actually, can it be falsified? Aren't a lot of the big economic theories…the theory that big groups don't get public goods because…

The small exploit the large.

So I mean…is that…that's not falsifiable because technically we don't know if maybe in the future, that comes along, or if there's a society in which people do that, but we don't know if they're discovered or whatever…

Right. That's a perfectly good question that's especially applicable with the briefing and such things like that. It can…so Olson says…and I think Olson…what he was trying to do was just describe a phenomena, which was inductive, right? What we notice often in the real world is that a small group, a special interest group, will be able to collaborate to create some exploitation of a large group, right? And there's a million different examples.

So it's like hey…there's something going on here. Is it always true that the small will exploit the large? No, right? Does Olson really care? Not necessarily, right? He's trying to describe a phenomena. And this is a huge question. Is it falsifiable?

If you did want to create a falsifiable situation, then you could do an experiment, you could get a group of people and then…but then…no the whole idea is that they always exploit them is wrong. "They never exploit them" is falsifiable. Right? So what I mentioned in the last lecture is in the course of doing your studies, and this happens more at the PhD level, but…if you actually create a hypothesis that you want to falsify, then you can do that, right? But you just reverse the wording. Do the small always exploit the large? I don't know. Do the large…do the small never exploit the large? Well, we can falsify that by only finding one example of one special interest group exploiting the large.

So that's how you would make it scientific by literally just…like clever wording.

Well, when you talk about them always exploiting, can you just kind of find one situation and that's falsifiable?

Yes you could. You use the word always, absolutely. But the thing is…then you're into…are they always exploiting? Is this part of a logic game of not exploiting today, but maybe exploiting tomorrow? That kind of gets back to the immortal man problem, right? So you might be able to do it with a good enough construction of your hypothesis? But it's much simpler just to say that they never do, right? And falsify it that way.

So just basically save yourself the effort, which is what the lesson of that is.

Would that point to you, basically, that you would have to look at the time frame and as soon as you extend it indefinitely to the future, you always have to…you're already out of the game. You can never falsify…

Yeah I mean it depends on how you falsify the borders of the game. If the game is unlimited, then you're in trouble.

So you'd have to say in modern society, or whatever.

Right. And you can go to all the post-desconstructivists and stuff like that. So this is the big philosophy of science kind of discussion. It probably doesn't even belong in this class, but it's curious to keep on track.

Does anybody, by the way, need a copy of *The Tragedy of the Commons* and didn't get it? Anyone? Briefings? Anyone? Anybody need the briefings?

Okay. Auctions. Right. So I'm going to talk a little bit about the…a little bit of auction theory, not very much. Who here has participated on eBay auction? Like bidding. Not "Buy it Now". In fact…let's do it the other way. Who has never participated on an eBay auction? Okay. Who has never participated in any auction period? Okay, couple people. Alright.

So let's…wait a second. So you guys didn't go to section?

Oh…yeah…

That was my second question. How did section go? How were the auctions in section? You did participate then? It was, unfortunately, a winner-take-all number of points for somebody, right? So what did you guys learn in those discussion section auctions?

Some people are ruthless.

Ruthless! What were we doing? I forget what the auction was…oh yes, it was trading, right? People were endowed with a certain number of goods. And there was a buy and a sell. Ruthless. Meaning ruthlessly trying to make a profit?

Yeah.

Did they come and hit your or something?

No, but just the pricing at first…prices would like jump up and down, but then people were like…they'd go from like $5 to $5.05…

So people were annoying, is what you're saying. Or boring. It's like $5.06, $5.07…so people were really trying to get the last penny, in a sense, out of that?

You didn't even have to. Because a lot of times where you sit, and who speaks right…

Where you physically sit?

Yeah because like…the order that we were in…like just before you…who speaks right after you. Like if a buyer goes first, and you're like $8, I'll just be like…okay.

So that's the problem of creating a reference point. It's an access to…did you sit there today to get better access to a book for the auction? You did. Okay. That's a very strategic nod.

I was going to say the same thing.

Same thing. You guys stop talking to each other, or you're going to start sharing your comments. Yeah?

For some reason I thought the buyers had the advantage.

The buyers had the advantage of?

For this simulation…even if we rotated or traded the order of the game…I still thought the buyers had the advantage.

How did the buyers have an advantage?

I feel like they had a higher…like they were able to buy things and their value…well yeah. They were able to buy it a lot cheaper.

The buyers were able to buy it by definition, right? So you're saying that they were getting a surplus?

I think that their profit margin was a lot higher.

So the whole idea of these auctions is that taken together, you guys in the class have a supply and demand schedule. So these are the sellers, and these are the buyers.

And what you're saying is that you might have a buyer with such and such a valuation for that unit, and a set of sellers, and they'll say, "Oh, I'll offer that." And they would make a sale. Is that what you're saying? So then the total surplus…more went to that…in that particular transaction. But you're saying it was unfair, because the buyers had more of an advantage. Were you on the sell side? Who was on the sell side and felt that they were being exploited by the buyers?

Who was on the buy side and felt that they were being exploited by the sellers? Who was on the buy side and was so happy that they were on the buy side?

Sell side? Who was happy to be on the sell side? So like whatever. A whole bunch of no hands, right?

So look. The thing is…remember…this is a very important thing to take out of this particular example, but it applies everywhere. If you're in this bilateral market…buyers and sellers, a bunch on each side, and say that you're a seller, who are you competing with? Sellers. Right? What you really want to do is you want to kill all those people.

You got divided into one half of the room and the other, right? So it's like…you just want to turn around and push all the other people against the wall. You can't do anything. Then you are a

monopsonist, right? And if you're on the buy side, you're competing against the buyers. And if you happen to have…if you're on the buy side and you're up here, you are sitting pretty. Because you're going to make a killing because everybody else is down here. They can't even bid like you can bid to get the surplus. And if you do get one of these low value ones, you're really happy. Did you guys end up converging on some kind of equilibrium price? Something? Or was it like completely irrelevant?

A lot of people were like really unwilling to settle on prices because they knew that they were trying to make the most.

So the bidding would like…keep going a little bit more?

Yeah. Like people would have accepted it if it hadn't been for like…oh, we might make a little more if…

So this was the ruthlessness part. But were both sides ruthless, or was one side more ruthless than the other?

Both sides.

Both sides. Those profit maximizers. Yes?

I feel like the winners were not necessarily winning because they were really savvy in auctioning, but because they lucked out.

Yes. That unfortunately is a strong possibility. Although I have run these things in labs before, and I've seen people like…completely fail. They were given a good hand, and failed.

That doesn't necessarily reflect like…a real auction though, right? Because you choose your own…

Well, this brings up an interesting question. So I put up this for sale. This very valuable fake turd. It's what? What is this? It's a piece of bread? It looks like a turd to me.

So I've got this turd for sale that you really want. And your valuation…now this is a private evaluation right? And in your head, you're like…oh my god that's worth $20. And then Bill Gates is sitting in the back going: "Oh I love turds." And he bids $100. And you're like, "Oh that's not fair!" Right? But that would be what actually happens in terms of the world, right? So in the auction…essentially we made you rich or poor in that auction at a random…hopefully random…way, right? If the GSIs were taking side bribes as they handed out those supply and demand schedules, that's a different story.

But the whole point was, in a sense, as far as learning is concerned, and they realize there was some annoyance called…it's not fair. They got three points and I should've if I worked harder. But the whole point is that even if you didn't get those three points, you would have learned what the hell was going on. And three points now…but you know…look forward to the rest of your life. The best class that I ever took when I was in undergrad was an investment class, and they said…don't play the stock market. And after the 10 years of making a mistake in trying to play with the stock market, it was a very, very good class, right?

So try and take that question away from it. Other comment? Yeah?

There was one auction in our section that was a complete gimme. There was a really cheap buy, and someone got a huge profit. They…that doesn't even factor in to like the winnings. The winnings came from the fact that the person…all three of the units, they made a profit…

Right. A steady set of profits. Right. That's what you want to do. You want to make steady profits.

I was thinking about it, and you can win the game easy if you have two friends working together…

Collusion. Yes. How do you win the game easy with collusion?

You can just…let's say the buyer goes first; he can bid the lowest price, and the buyers buy at whatever…

So when you're the seller going first, did you know who was going to be able to bid on the buy side first next?

Yeah.

You did know ahead of time? And so like…dude, you're going next. $1! Right? Was that happening? You couldn't communicate. So how were they colluding? Brain waves.

Before the class.

Before the class!   You're my friend, stay my friend. 3 points!

That as another thing I didn't understand. Because I was a buyer, and my reasoning was we should start bidding at $1, and it would start going from there. Everybody was just like $6! It's like…well…that would benefit you if you started at $1. You would get it cheaper, and you would make a bigger profit too, right? But I didn't understand that trend. Like why people wouldn't start…

So there was a question…I think part of the question…the nervousness…it was by necessity that we had to do one person at a time because there's 20 or 25 people in the room. If you look at eBay, like everybody's like piling in at once. Only for one item for sale. And when we do the auctions in the near future, because we have to make sure we do it in this class, you guys will all be simultaneously bidding. So that strategic ordering problem will go away.

And that is significant. Ordering is a very significant issue. Another thing, yes?

One thing that I thought was interesting was that when we started the second period…basically whoever went first, set a price, and the next seller would say the same…would ask for the same price. And it was kind of like every time…in period two they started off with the buyers in our thing, and they set a price, and the seller would be like "Accept". And then the next buyer says the same price, and the seller was like "Accept". And it just kept…it happened like 6 times. Like people just kept saying the same number, and they weren't learning.

The problem…back to this ordering thing…is if you don't say accept, then maybe you just have a bid out there, and then no one pays attention to you. Then you don't sell at all, right? There's an issue with these kinds of auctions which is called…I want to have something no matter what. Sometimes…often you're going to get some surplus, okay? But the worst situation is where someone says…I'm going to buy even if lose money.

And I've seen this in experiments. I'm doing experiments up the hill at the XLabs for money, and people are buying high and selling low just for the joy of trading. It screws up everything as far as I'm concerned. Because you're like, "Oh my god! I've got irrational people in there!" But maybe that's rational.

So there was a girl in one of my experiments, and I was selling movie tickets—pairs of movie tickets at the Landmark, that are worth $15.50. And she bid $49. And it's like…you're running my experiment! Because she ended up with all the tickets, and it's like…I'm not going to bid $49. I mean yeah…basically…true. And then the worst thing of all, after she spent al her money, and she had a check for 45 cents for her earnings for the entire experiment, she left the tickets behind. And I was like, "What happened?" And she's like, "I thought that was fake." It's like…okay, great. I give up.

Okay, that's where the reality hits the theory. Yeah?

Another thing that could happen is after a while, when everybody gets really comfortable with the process that even if we can't communicate, peer pressure still happens because you shoot people evil looks. If the buyers, for example, start really high, and you can hear this "UGH" and I think that it could, in a situation where everybody knows each other, affect the next time the persons going…everybody's going to hate me if I do this, you know?

That's right. So peer pressure matters. I mean the best thing that you could hope for in terms of auctions and efficiency, moving towards efficiency, is many, many, many transactions. Because over time, if you're doing lots of transactions, then people…they get used to each others patterns, they get used to the strategy, they get used to setting different values. But if you only have…I mean if you guys were doing that auction thing, and you only ran it one round in the whole class period, because like the GSIs just sat there and talked, and talked, and talked like me…then you wouldn't learn anything. Because it'd be almost random, like whoever won. Someone would say $12. Okay, fine. Okay, I hope you guys learned today; have a good class, right? So it's learning by doing, essentially, in these auctions. And also, that feedback is significant. And the person who's like…they just bid high or whatever, it's like…you might get oohs and aahs, but yeah, I got the item, right? So that will happen when Bill Gates walks in and buys the turd. Another one?

I think people were mad because they didn't really understand (or upset) because they didn't understand the strategy. Like a lot of the sellers…they weren't seeing a lot of profit because people didn't understand…you set your price really high, and it'll slowly come down. But people would start off…if they had something that was valued around 5…oh I have 10. But if I was a seller (I was a buyer) but if I was a seller, I'd start from like $100.

But even if you were in the random order, or if you were in the set order, you would think that you don't have anything…

But you might sell it at $100, but you might…offer it at a $100…and no one takes your offer. Then you get nothing at all.

But what would happen is that people would pick up on the strategy, and slowly, very slowly, come down. And it would force the buyers to increase.

Right. The real problem in a sense, both…I mean a lot of problems are stemming from the way I asked the GSIs to structure this in an order. This side, that side. It was like the trading pits at the Chicago board of exchange. It's like AH and there would be a price.

You know a whole bunch of ex-football players trade in those pits. Because they are literally like shoving each other. And guys will like get hernias yelling at each other. It's crazy. Go watch the footage on these pits. The Chicago Board of Trade. The oil pits, or the soybean, or whatever. It's just like, "Ah!" or watch Trading Places, which is a good film.

Okay back to the…more and more stuff on auctions. And of course auctions have been very, very popular in…there's a huge debate right now about cap and trade. So…should the permits for cap and trade be auctioned, right? But very successful auctions…another one for environmental goods (they're very successful) are the sulfur dioxide auctions. This started after the 1990 Clean Air Act was passed. That was a cap and trade. And what happened was…they said look. We have emissions that have been going like this, and here's the trend line. And we want to set a cap on SO2, and this is time, and we want to set a cap on SO2 emissions because then we get acid rain, and in order to emit SO2, and the cap might be falling. This is often an interesting policy question: should we be reducing the cap, right? That debate is going on with CO2. The global… greenhouse gasses.

So they set a cap. And in order to emit, you have to own a permit, right? And so the number of tons of SO2 were capped, and then the way that this was structured was…about 200 big SO2 emitters were given permits, but the number of permits that were given…I can't remember if it was cap and it was falling or not, but there was a minimum on the cap on the number of permits they would get, and that created a secondary market because why would somebody buy a permit on this market? Why would a polluter buy an SO2 permit on the market? Go back to basic…

So he can make a product that is worth more than the grandfather company's product can make off that license to pollute.

Okay, so you're a buyer when? Why would you buy?

If like the cost of the license to pollute is lower than the benefits I get from…

The marginal benefit is grater than the marginal cost, right? So why would you sell?

If the cost is greater than the benefit?

The benefit of selling is greater than cost of reducing your emissions. You shut down your plant, you've got all those permits leftover, and you can sell to all of those polluters that are still in business. The point is that…that would overall…the net number of emissions would stay the same or fall (if it's a falling cap) and the factories or the power plants or the most polluting would shut down first because it's more profitable to shut down and sell the permits than it is to

run the plant. That's the theory right? That theory is what people are hoping is going to happen with CO2 cap and trade. The auctions are the best way to allocate those…or secondary markets. The other very famous situation is the auction of radio spectrums versus cell phones. Does anybody know how the history of that…do you know how much those things sell for? Billions of dollars right? The US government and governments around the world…they used to give them away. Usually, they would give them to their cousins. The president would say, "Oh my cousin's going to open up a cell phone business. Here. Have a permit. It turns out when they start selling this things, they were selling for billions of dollars. Or hundreds of millions. And the GSM G3…3G. There we go. The 3G auction in Europe raised billions of dollar bankrupted I think nearly some telecom carriers because they getting way ahead of market demand. But the governments of those countries got a whole bunch of money, right? For selling the spectrum. Now here's a big question. Was that beneficial for the public good or was that negative for the public good. Or was that just a wash? Was it a transfer in terms of social welfare.

What do they do with the money?

So let's just say that they did something good with the money. At a minimum, it's a transfer from who to who? Cell phone users to?

Government?

Who's the government? The government is not a person. To who? The citizens, right? So it was a transfer from cell phone users to citizens, okay? It may be inefficient if the government goes and wastes the money. It could be efficient if the government uses that money to do something amazing that their liquidity were constrained on. But the other part of this that's important is that those auctions made sure that the winners had a strategy to make as much money as possible from those licenses, right? Because if you just handed it off to your cousin, your cousin might go to the beach, and then there's no cell phone service at all. So it gave those companies an incentive to go maximize revenue based on paying those costs, even though you can consider them sunk costs, they now had something which was valuable. So spectrum options are very popular. A bunch of economists have made huge money consulting on those things.

And usually, as far as I can tell, earning their money for their clients. Companies.

Okay so…let's go over some other concepts. Just so you know some of the jargon to how that relates auctions, and this will help you with your strategy when we auction these books in the near future.

Are we just doing one kind of auction, or are we going to…

We're going to be doing 4 types of auctions.

Including Dutch auction?

Including a Dutch auction. That's very good. And I'll define the auctions before we do them.

So the first thing that's important about an auction is…when you're bidding, you have to wonder about the mix of private versus public value. And what does that mean? If I take (or a common

value) if I auction a dollar, what is this worth to all of you? A dollar, right? So this is 100% public value. Everybody agrees that it's worth the same thing in a sense. It's a commodity that I'm going to auction. You can in fact buy it and turn around and sell it for a dollar. Everybody knows that. Now, if I take something valuable, like turd…now some of you are like…oh that's worth nothing. Some of you say, "Oh, that's amazing. I have to have that, right?

So the turd is the private value. It has more of a private value aspect to it. So when you are bidding in an auction, your bidding strategy will depend on the mix of public versus private values. By that, I mean…if the value of the good is entirely private, you really don't care about what other people are bidding for that good because you're only bidding based on your own value. Okay? And this only matters in a sealed bid auction. I you have a sealed bid auction… and say that sealed bid means that you don't see what other people's bids are. So everybody puts their bid in an envelope. We'll do one of those today. If you have a sealed bid auction, and the turd, then you don't necessarily know…you don't necessarily care what other people are writing for their bid in their envelopes because that's what they think it's worth. Their value has almost nothing to do with your value. But if it's a dollar or worse, it's something that's not so obvious, like a dollar, say it's an oil field, right? Then there's a whole bunch of…it's an asymmetric information problem, so let's go with the oil, and oil concession is being sold off of the state of California or in the Gulf of Mexico, or by the government of Indonesia, or by the government of Angola. They're selling an oil concession, and you're an oil company, and you send out your engineers, and Chevron sends out their engineers, and Shell sends them out, and Total and all those other companies say send out their engineers, and they'll go in the field, and they'll look and see what it's worth.

Everybody knows that their final product…let's say it's going to be somewhere between 500 thousand and 15 billion barrels of oil. Now you know what a barrel of oil is going to be worth. But you don't know how many barrels of oil are going to be in that concession. The fact that one…but all these different petroleum engineers are out there doing their exploration of the site trying to find out what that's worth. If I have information in my report, and you guys are the other people who are bidding on that concession, is my information valuable to you? Yes. Because we have affiliated (the word is affiliated)…it's interrelated…our values are interrelated because of the publicness of what's being sold, right? It's asymmetric information.

So there will be attempts to bribe engineers, attempts to intercept them…all kinds of James Bond types of stuff to figure out what your opponents are going to be bidding on that concession. Yes?

Are the engineers trying to find a reference point?

What do you mean by reference point?

Like what do you think the market will attract

Well it's not necessarily the value of oil. This is set in a market, in a way. They're trying to find the volume of barrels of oil, right? That's the information that's valuable. And once they get that projection, they take it back to headquarters and they say, "Oh we think there's a million barrels of oil there. Therefore, we should bid that much."

If you're the competition, then you're like, "Oh, they think there's a million, we think there's 1.5 million, so we can bid more, and we'll be able to win it."

That's what I was going to ask…whether or not these information changes from people to people.

Absolutely. Everybody's got their own opinion, right? We're not talking about a dollar bill anymore. We're talking about an oil field. And there's different ways of figuring out what that's worth. But once you do know what it's worth…because there is only one number that's actually true for that oil field. What is really there. Now here's the problem of this kind of auction. And this is why the strategic intelligence is interesting. It's that you're going to have, let's just say, a normal distribution in terms of opinion of engineers of how much is there. Some engineers are going to think there's very little. Some are going to think there's very much. Now do we know from the distribution where…how much oil is really there? No we don't, right?

But we do have…where's the *Wisdom of Crowds*? We do have, in this book, which is going to be sold soon, for many, many dollars, or pennies…we do have the idea that the…if you just take the neutral opinions, the nonaffiliated opinions of a whole bunch of people, that this is actually… probably…this is the highest likelihood of what's actually there.

The idea that if I asked all of you…if I took a jar full of gumballs, and I asked each of you individually to write down how many gumballs are in there, and if I took the average of all of your guesses, which are going to be shaped like this, this is actually probably what is going to be really there. Because, on average, you're right.

But if I sit there and say to you, okay, who…raise your hand if you think there's 10. Raise your hand if you think there's a hundred. Then I start breaking down you're individual opinions and creating kind of group opinions and group think. Because they're like, oh everybody's raising their hand, I should raise my hand. Do you see what I'm saying in terms of that problem of contaminating each other with the information?

So what you want with a guessing game, is you want everybody to come up with their own opinion, and then you take those ranges of opinions, and you'll find probably a very accurate guess of what is really there. But you have people start talking to each other and coming to a consensus, then the consensus will be here because so-and-so is the loud mouth, and everybody agrees with so-and-so. And this is more likely to be wrong.

Is that like auction with a paddle?

Auction with a paddle can be like that, but then there's the problem of…if you're auctioning a Picasso…but the Picasso…is it more of a public value or private value…Picasso?

Private. More private. It's not like…"Oh, I really wanted that one in another color."

But if it's oil, if you start bidding the public on oil, everybody's watching what's going on, and the companies will strategically change their bids. That's why it's a sealed bid auction very often. Now here's the problem. Say the company…the engineer comes in with a value here, but that company doesn't know what the distribution of values are. And they win the auction, right? Because they bid the most.

That's called what? Anybody? You've heard of it before, but you might not know what I'm talking about. The winner's curse?

The winner's curse is because you're bidding more than everybody, but you think that you aren't. And then you win, and you're like…uh oh…because that's how much oil was really there, and you just bid that much. You're screwed. You just went…you lost money.

So they're trying to figure out the quantity of the oil, and then they determine the price according to the quantity?

Right. So that's where…the problem in the oil auction is not the number of square kilometers, it's not the price of oil, it's how much oil is under there. And that's where these opinions start to matter, right? That's the thesis of this book…it's pretty cool.

So that's the winner's curse problem, right? Now one way of overcoming the winner's curse is to say…because the English auction…and English auction says…okay who gives me one dollar, who gives me two dollars, who gives me three dollars? And at the end, the last person says… okay, 52 dollars. Because everybody else dropped out of the bidding. That person may have just experienced the winner's curse. Because they're like…uh oh…no one else bid. If it's private value, it's not necessarily a problem, because that's the value to them. These books have private values to you (mostly). I mean if you're turning around to try and sell them on eBay, good luck. So it's a private value. If it's the way to get over that problem is to say, "Okay, we've got a bid and a bid and a bid and a bid", and this is the way…say that this is 10 and 9, 8, and 6…we've got these bids…the way to get around the winner's curse is to say…the highest bid wins, but they pay the second highest price.

That is actually how eBay works. When you bid on eBay, and you bid $10, and the next highest price is 9, you pay 9.10. Or whatever that little increment is. You just pay a little bit more than the second highest bid. And what that does is that ensures that you as the buyer will have a little bit of surplus leftover.

Well…what if people figure that out and bet extremely high, and no one else wants to bid…

If they bid extremely high, and no one else bids, then that's fine. But if someone else goes up with them, then they're screwed because they paid that second price. It's worth 10 bucks and you're like…$90. And someone says $80. You just paid $80 for something that's worth 10.

So if you don't run a second price auction, what people will tend to do—if you run a first price auction (as this is called)—what people will tend to do is they'll shade their bids down. That's the word: shade. It's worth 10 to me, but I want to bid 9, because I want to have a little bit extra.

So people will tend to lie. It's well known as a problem.

So the solution to that is to say well, you're only going to pay the second price.

A few more pieces of jargon, and then I want to get to the actual auctions.

Sniping is the word that happens a lot in eBay. Sniping means that you have…you're the winner, there's three seconds left, and…bang! The bid comes in at the end. Because there's literally automatic software that will submit a bid like ½ second before the end of the auction. And now you don't win! What's the strategy to overcome sniping if you are bidding on eBay?

Bid a really high price

You can bid a really high price, but that's not the strategy. What's the strategy? You will win.

Click the "Buy It".

No.

Wait till the very end?

No.

You set like…your highest price that you're willing to pay for a product?

Right. And then you don't get involved.

Yeah

Because the problem is people will get excited in eBay. You won. Ooh. Congratulations, right? You won. What the hell. You just bought a necklace, or something like that.

So if you never want to have regrets in eBay, set your price, and walk away. In fact, set it like the last day of the auction. Because I watch bidding behavior on eBay. That's one of the reasons I like selling stuff on eBay. Because someone gets all caught up and they buy dog poo for $22. It's like…what the hell? Oh, I had to win! It's like…okay…congratulations.

I had a question with the private auction versus the public…I feel like in the one where it's just how much it's worth to you, at least you have a sense of how much it's worth to you versus the other one, where you kind of get caught in the competition, and it wouldn't mean anything to you.

Right. In a sense, yeah, you're right, and it's a private value, it's definitely the best strategy. If it's a public value, then you…congratulations, but now you've bought a $10 bill for $100. That's where you want to avoid it. That's why there's all this…just even strategic behavior. I'll tell you more about that, but let's do this auction here.

So…let's see here. Where' the other book?

I'm going to do…

I want to randomize these books, so I'm going to…

Give me a number between 1 and 20. You.

15?

Another number between 1 and 20. 7? And you?

5.

5. And you?

3?

3. Okay. I'm trying to get these in a different order.

Start getting excited.

Okay. So…*A Beautiful Mind.* This is going to be an English open auction. What I'm going to do…that mean's I'm going to start off the bidding. If you want this book…oh…reference point…you need to know what the reference point is. *A Beautiful Mind.* Lowest price, including shipping on Amazon is $4.

New or used?

This is used. They actually don't tell you what the quality of the book is. Book may have moderate creases. Whatever. This is the used. Hopefully you saw enough of it.

Do I have $1? You have to increment up by 25 cents a bid. Okay? You have to just go up. And then the highest bidder wins this, right? So it's a first price English auction.

$1?

$1.

There's a $1. $1.25? $1.50? $1.75? $2? I have $2. Do I have $2.25? $2.25. $2.50? That's only about…less than a penny per page. $2.50? Anyone? $2.75? Going once, going twice, sold. Alright. $2.75. Please clear that sale later on. $2.75 because I can't remember things.

Wisdom of Crowds, which has a reference price on Amazon. Hard cover. $6.61 including shipping. There's some marginalia—very few on the side.

Oh what auction is this? This is a Dutch open auction. What that means is that I'm going to start at a high price, and I'm going to drop the price until one person says, "I'll take it." Then you pay that price.

$15! $15…

14, 13, 12, 11, 10, 9, 8, 7.50, 7.25, 7 dollars, 6.75, 6.50, 6.25, 6 dollars, 5.75, 5.50, 5.25, 5 dollars, 4.75, 4.50, 4.25, 4 dollars, 3.75, sold. That's a Dutch auction.

I should just do that again to make you nervous again.

The next one is a seal-bid auction. If you are interested in this book, get a piece of paper, rip it out of your whatever.

What book?

This book is *Shoveling Fuel for a Runaway Train.* The reference price on this book is $5.62 cents. Okay so *Shoveling Fuel for a Runaway Train* for $5.62. You've all had a chance to see it, hopefully. This is a second price sealed bid auction. I'm going to take all of your bids on little pieces of paper, I'm going to write them down in order, and the highest bid will win this book. And they'll pay the second highest price, okay? That's what I explained to you guys before. Does everybody understand that?

Okay. Take your piece of paper, write down your bid and your name on it. And give it to me quickly. Or pass it forward.

I got one, I got two. Make sure your name is on it!

Keep them coming. Anymore bids coming up? Is that it? Going once, going twice…is there something there? Okay. More bids?

The highest bid…is going to pay $3.25. That's…Kim Thai is going to pay $3.25. Okay. That auction is over. And her surplus shall remain her own information.

Okay our last auction is going to be a second price open auction. That's for *The Worldly Philosophers*.

It's the most valuable book in the collection…worth $7.88. Actually very good reading. And so second price open auction…I'm going to go on ascending bid. And this is like eBay. So the person who has the highest bid wins, but they pay the second highest price. Does everybody understand that?

$1. Anyone? 1.50? 2 dollars? 2.50? 3? 3.50? 4? 4.50? 5 dollars. 5.50? 6 dollars? 6.50? 7 dollars? 7.50? Going once… 8 dollars? 8.50? Going once, going twice…7.50 sold. Okay. It's ascending, but it's second price. That's just a second price open auction, right?

What's the one where the person talks really fast? Is that an English one?

No, well that's usually an English auction. Those are for cattle.

One last auction. Usually for cattle! They actually auction like 70% of cattle on video now.

Because that's usually the ones we watch

Yeah, I can't do that. I don't even understand what they're saying.

Alright this is the 5th auction. I'm going to auction this dollar, okay? Now this is called an all-pay auction. What that means is that if you bid, you pay. If you win, you get the dollar. But everybody who bids, pays. All pay. It's a great deal.

Does anybody want to pay 25 cents for this dollar? 25 cents? 50 cents? Anybody? 50 cents for this dollar? 50 cents. 75 cents for this dollar? 75 cents. 1 dollar for this dollar. There's a dollar.

Now you are on your honor to pay for this dollar. There's 4 bidders already. Because you're paying a dollar, you're paying 75, you're paying 50, and you're paying 25. $1.25 for this dollar? Now remember. He's going to pay a dollar and get a dollar. But you're already paying 75 cents. So $1.25…you'd only have to pay…25 cents. You'd make money.

Anyone? $1.25 for this dollar. Right now she's losing…oh there you go. $1.25 for the dollar. $1.50 for this dollar. Anyone? $1.50. $1.75 for this dollar?

Anyone? $1.75? Going once, going twice. Sold. Are you bidding?

I'll pay $2 to keep this going.

No, we have to end class. Okay so…$1.50 in the back? Is that right? You're the winner? Yes? Okay, so. You bid, you bid, and you bid. I recognize your faces. Now what's the lesson of the all pay auction? What is this about, besides making money for me.

It's irrational?

No, it's not irrational. Because you bid 75 cents. So that was a sunk cost.

But rationally, it would've only made sense for me to bid over that $1.25 and the person who bid 50 because we were the only ones that hoped to recover any costs.

Let's start at the start. Who saw the film *War Game*? 1980 something. The only strategy is not to play the game. Right? It's kind of like a sucker bet, right? Do this in a bar with someone smaller than you. But here's the thing about this all pay auction. This is actually…your strategy…if you actually do bid, that money is gone, right?

And if you bid 50 cents, and somebody bids 75 cents, you're like…and someone else bids 75, I you bid a dollar…if you don't bid a dollar, then you lose 50 cents. If you do pay a dollar, well, then, actually you will pay a dollar to make a dollar, and then you're even, right? You lose zero. This phenomena is extremely important with political lobbying. Because what happens with political lobbying is you get two groups that are fighting against each other in a zero sum game. And they put in a whole bunch of money, and they go…oh should we put in one more advertisement? Should we bribe one more congressman? Because all that money you've already spent is gone. But if they spend a little bit more, maybe they'll switch the bill to their winner. So remember that when you buy a dollar next time.

Alright. Come and get your winnings, etcetera, etcetera. Office hours at 3:30, I'll see you guys on Tuesday.

Transcribed and checked for accuracy by Brynna Bunnag